## ABSTRACT OF THE INVENTION

A rebreather apparatus having a gas scrubber canister with a generally oval or elliptical cross section. The canister being configured so that exhaled gases pass through the adsorbent in a radial manner through a generally hollow tube having the same cross sectional shape as the canister. The shape of the canister allows for increasing the volume of the canister relative to round cylinder shaped canisters without making it too cumbersome such that it effects the efficiency of a diver. The canisters have at least one removable end cap and the end caps are configured for housing gas addition and control systems. The rebreather apparatus can be rapidly reconfigured to provide a variety of fully closed or semi closed circuit configurations and it can be reconfigured to be worn in a variety of ways based on tasks to be performed and diver preference.